THE “RISCY” BUSINESS OF BROWNFIELDS REDEVELOPMENT

INDIANA BROWNFIELDS CONFERENCE 2006

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ENVIRONMENT • HEALTH • SAFETY
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OVERVIEW

- Key Elements of Successful Project
- Important Issues
- Case Studies

KEY ELEMENTS OF SUCCESSFUL PROJECT

- Clear Understanding of Project
- Communication with Stakeholders
- Good Conceptual Model
- Thorough Evaluation & Implementation

CLEAR UNDERSTANDING

- Stakeholder Identification
- Stakeholder Objectives & Timelines
- Constraints (financial, reuse, etc.)
- Environmental Conditions

COMMUNICATION

- Frequent
- Community Involvement
- Human Health/Ecological Risks
- Land Use Restrictions & Controls

CONCEPTUAL MODEL

- Historical Use and Planned Reuse
- Site Hydrogeology
- Potential Contaminants
- Potentially Impacted Media
- Potential Receptors

EVALUATION & IMPLEMENTATION

- Thorough Pre-Sampling (Phase I)
- Effective Sampling Plan(s)
- Thorough Data Evaluation
- Simple Non-Default
- Comprehensive Risk Assessment
- Remedy Based on Reuse and Risks

IMPORTANT ISSUES

- Vapor Intrusion
- Off-site Migration of Contaminants
- Background Metals Evaluation

VAPOR INTRUSION

- Proper Sampling & Evaluation (IDEM Pilot Program)
- Clear Understanding of Source(s)
- Vapor Abatement Alternatives

OFF-SITE MIGRATION

- Proper Investigation
- Evaluation of Potential Receptors (drinking water, vapor intrusion, ecological)
- Area-wide Ordinances

BACKGROUND EVALUATION

- Urban Fill
- Arsenic

CASE STUDIES

- Burnham's Sporting Goods, West Lafayette
- Prime Battery, Anderson
- The Bulge, Indianapolis

BURNHAM'S SPORTING GOODS

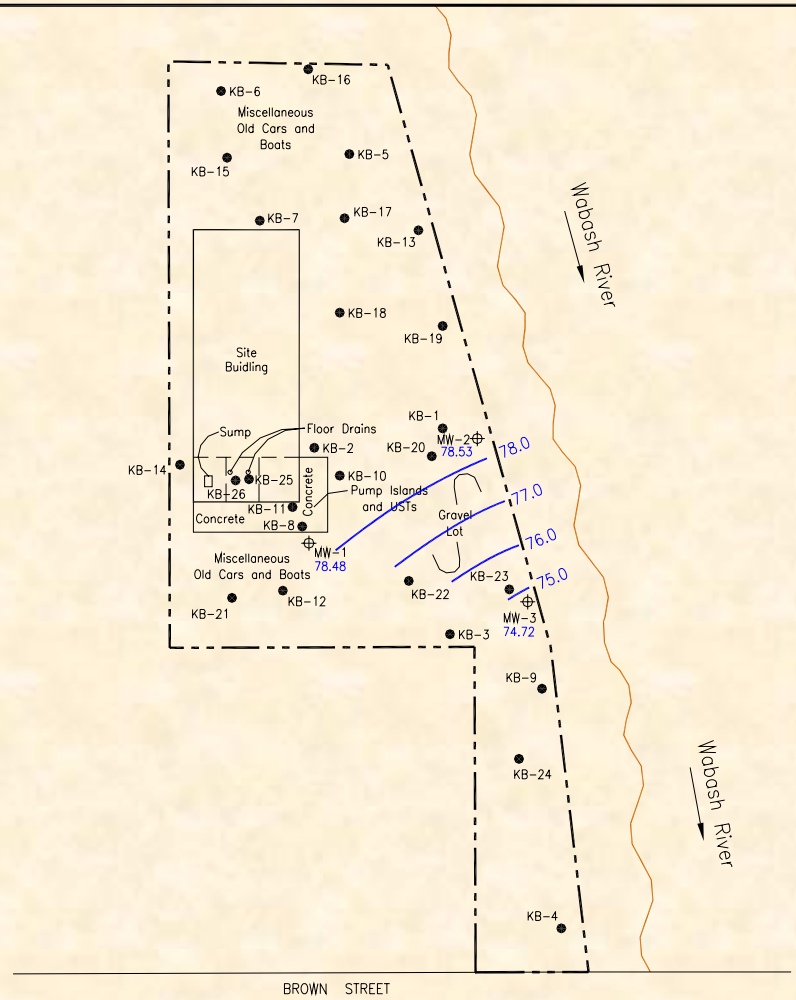
OVERVIEW

- Long-time sporting goods store and site of historical landfill
- Located on west bank of Wabash River in area of Wabash Landings
- Partnership between West Lafayette and Purdue University.

BURNHAM'S SPORTING GOODS

OVERVIEW (cont.)

- Redevelop as rowing clubhouse facility for student athletes and community.
- Phase I, Phase II, Site Characterization including methane study, and Site- specific HHRA



Legend:

- KB-# Soil Boring Location/Identification
- MW-# Monitor Well Location/Identification
- Approximate Property Boundary Line
- Wabash River Bank
- Wabash River Flow Direction
- 78.48 Groundwater Elevation in Feet
- 75.0 Groundwater Contour Interval/Elevation in Feet

0 40 80 160
Approximate Scale In Feet

N

KERAMIDA ENVIRONMENTAL, INC.
ENGINEERING-CONSULTING-REMEDIATION

Project: Burnham's Sporting Goods 500 Brown Street West Layfayette, Indiana	
Scale: 1" = 80'	Project No.: 10169
Date: Feb. 26, 2004	Prepared By: SmT
Approved By: Frank West	

Figure 5

Groundwater Potentiometric Surface Map
(January 19, 2004)

BURNHAM'S SPORTING GOODS

TECHNICAL CHALLENGES

- Appropriate sampling strategy for fill materials
- VC, As, Pb, and Se in soil > RISC Default Industrial CLs
- Total As and Pb in groundwater > RISC Default Industrial CLs.
- UST Removal

BURNHAM'S SPORTING GOODS

TECHNICAL SOLUTIONS

- Statistical (random) sampling of surficial fill materials.
- Removal of USTs under PRGI program.
- Mitigation of VC and Pb occurrence during UST Removal
- Site-specific HHRA. Evaluated site worker, recreational user, and construction worker.
- ERC for non-residential land use and prohibition of water supply well installation.

PRIME BATTERY

OVERVIEW

- Abandoned former foundry and automotive battery manufacturing site located downtown near White River
- Listed on Commissioners Bulletin
- Removal Action by EPA and cleanup activities by IDEM
- Main Structure was dilapidated and required prompt demolition

PRIME BATTERY

OVERVIEW (cont.)

- High priority for Anderson, Visited by Governor Daniels during campaign
- Planned reuse is greenspace or commercial/industrial
- Completed Phase I, Phase II, asbestos and lead-based paint surveys, pre-demolition waste sampling

PRIME BATTERY

TECHNICAL CHALLENGES

- Friable asbestos and lead-based paint discovered.
- Structures in building required decontamination and encapsulation prior to demolition.
- Pb present in near surface soils >RISC Industrial Default CLs
- Fast Track Project

PRIME BATTERY

TECHNICAL SOLUTIONS

- Worked closely with Anderson and IDEM to plan and manage environmental aspects of demolition and residual environmental impacts
- Completed Asbestos Abatement

PRIME BATTERY

TECHNICAL SOLUTIONS (cont.)

- Building and contents properly removed/recycled
- Plan developed for removal of approximately 4000 tons of Pb impacted soils. Subject of Stipulated Grant Initiative.
- Removal from Commissioners Bulletin

THE BULGE

OVERVIEW

- Former Monon Rail Line railyard including a locomotive roundhouse, machine shop, paint shop, and fuel oil storage
- Downtown Indianapolis along Monon Trail near 25th Street

THE BULGE

OVERVIEW (cont.)

- Planned redevelopment is a youth golfing academy complete with small par 3 course and driving range.
- Phase I/Phase II, Site Characterization w. geophysical survey & test trenching

THE BULGE

TECHNICAL CHALLENGES

- Surficial fill layer with cinders, brick, concrete, steel, and slag.
- As, Pb and SVOC in surface fill > RISC Residential Default CLs.
- VOC, SVOC, As, Pb in subsurface soil > RISC Residential Default CLs
- VOC, SVOC, As, and Pb in groundwater > RISC Default Residential CLs

THE BULGE

TECHNICAL SOLUTIONS

- Random sampling of surficial fill
- HHRA to evaluate potential risks based on planned reuse as recreational area. Potential receptors include recreational users, groundskeeper and other site workers, and construction workers. Evaluated vapor to indoor air pathway. No unacceptable risks identified.

THE BULGE

TECHNICAL SOLUTIONS (cont.)

- Soil cap on surficial fill layer to prevent direct contact.
- ERC for non-residential land use and prohibition of water supply well installation.